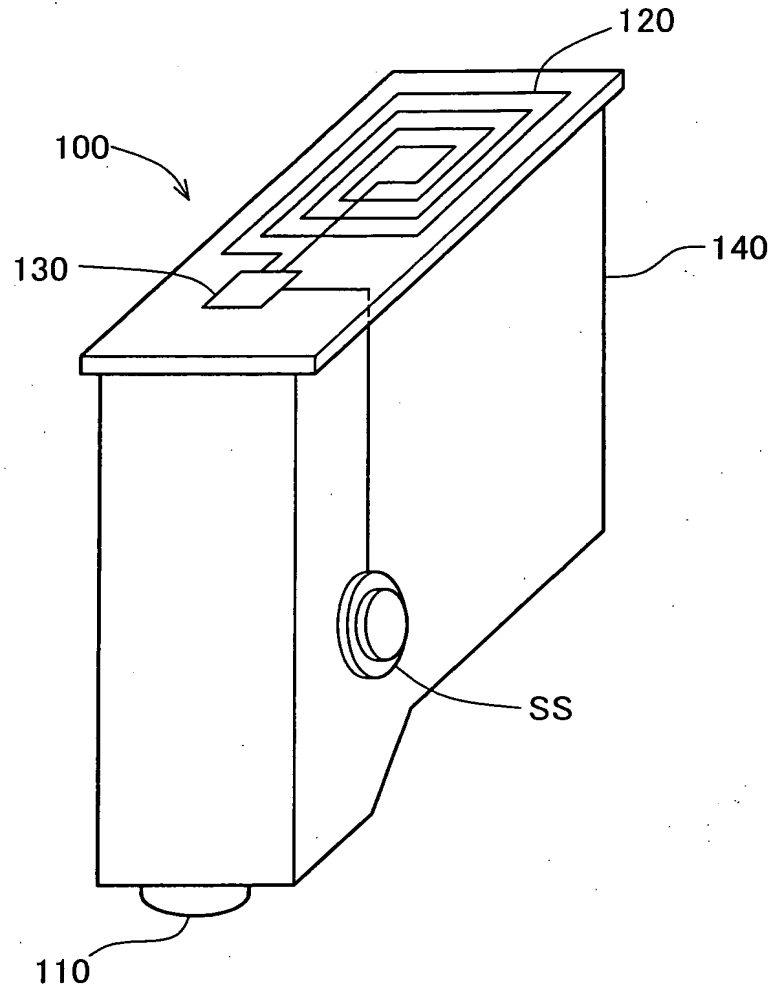


1/17

Fig. 1



2/17

Fig.2(a)

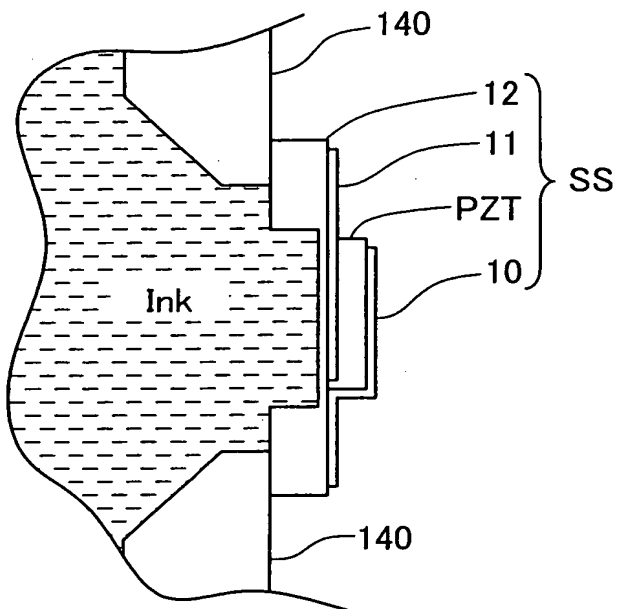
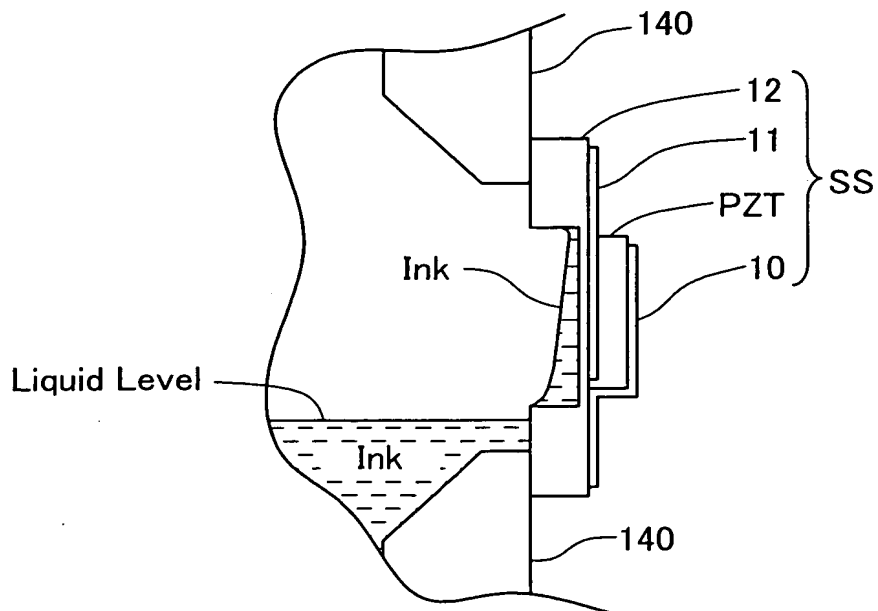
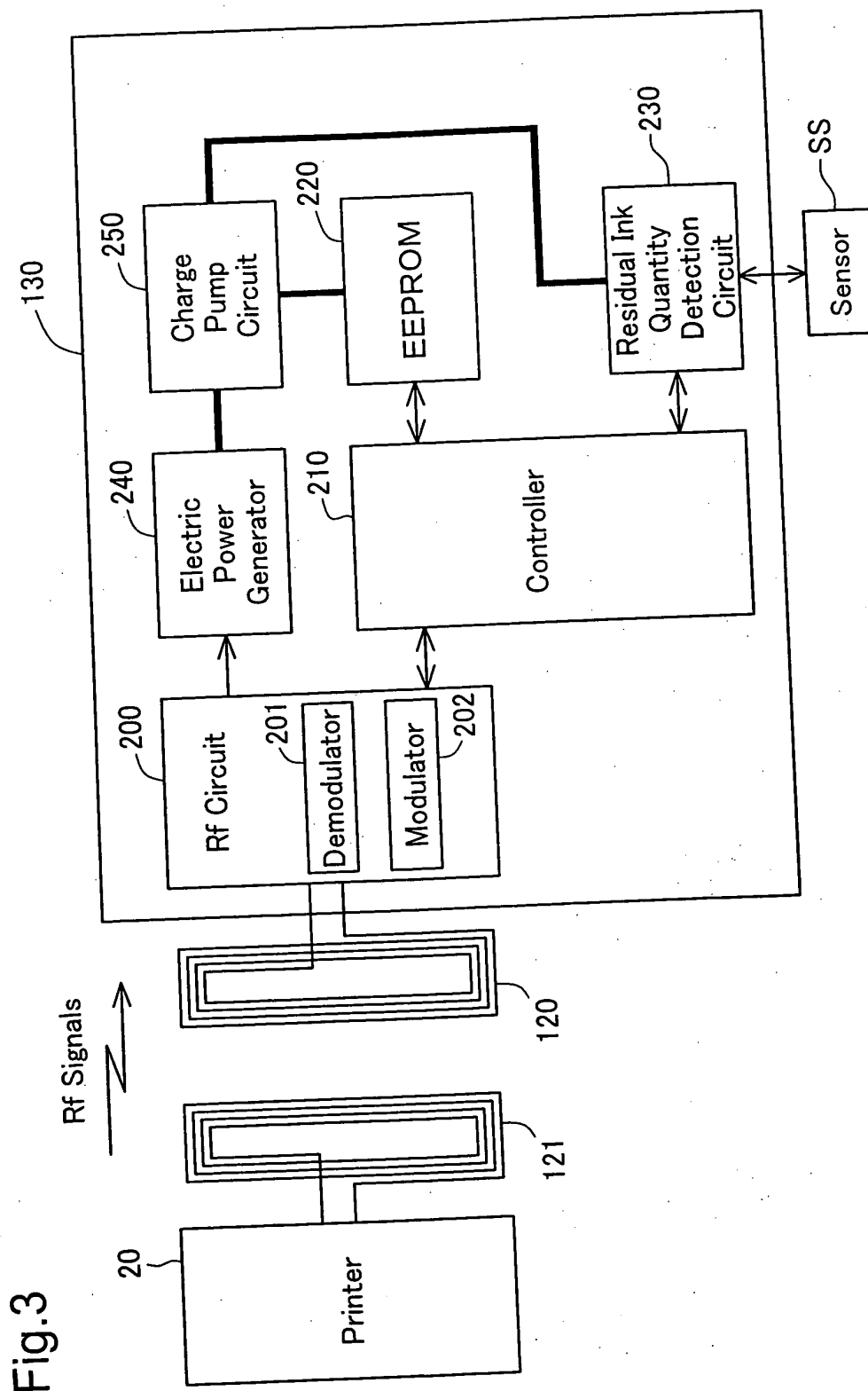


Fig.2(b)



3/17



4/17

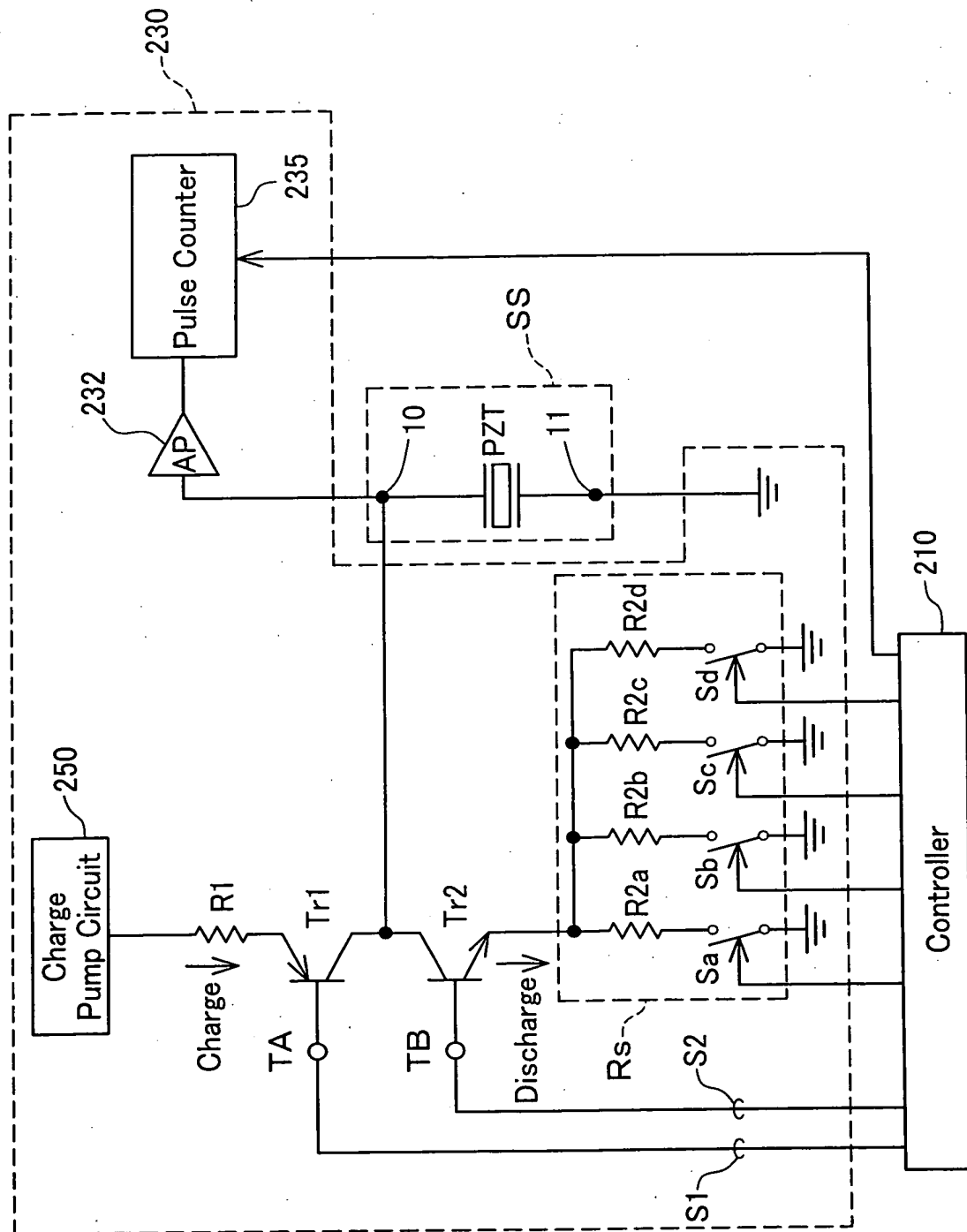
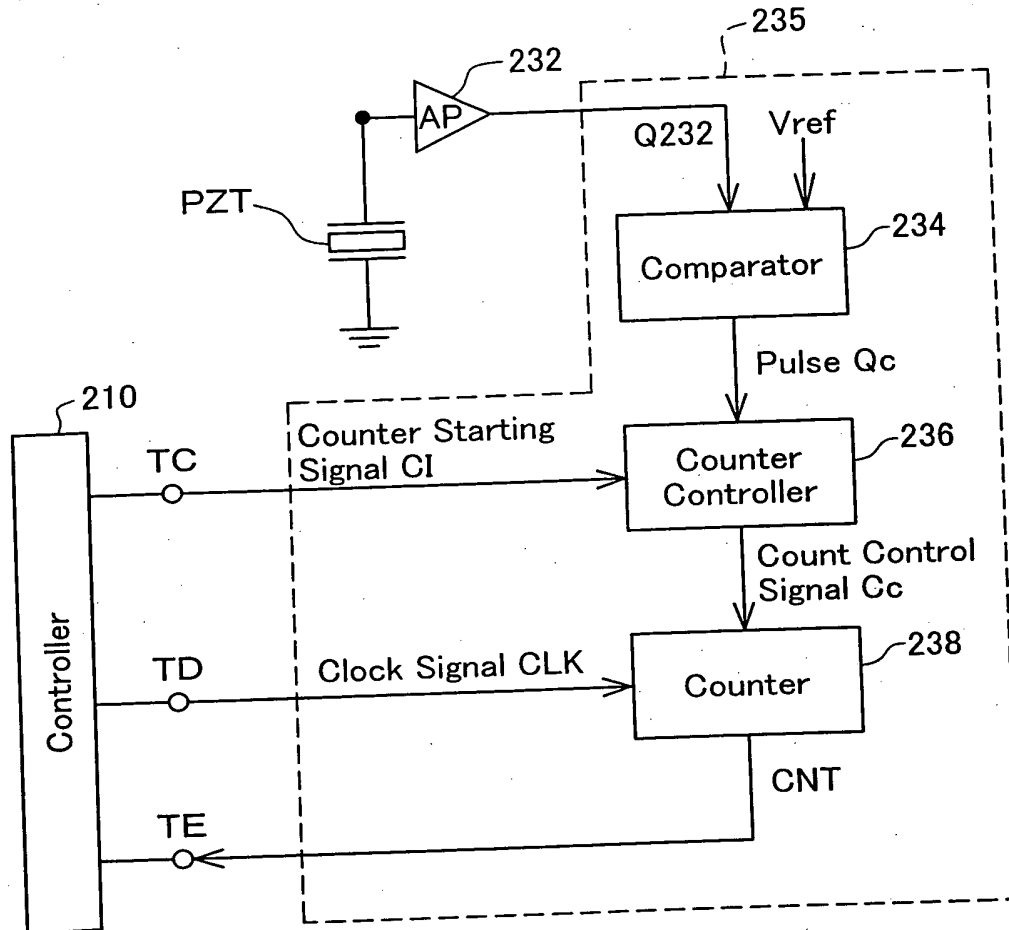


Fig.4

5/17

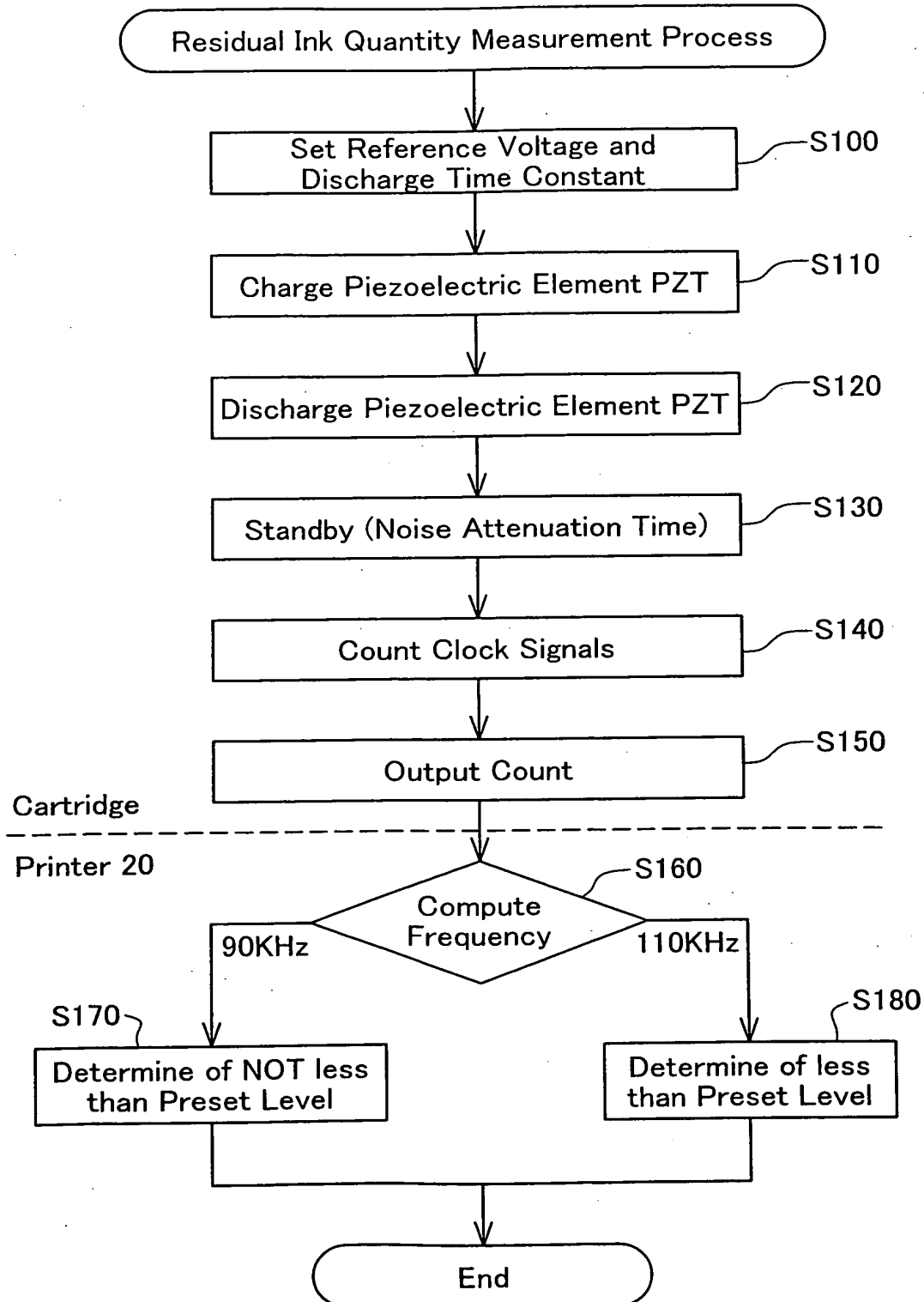
Fig.5



6/17

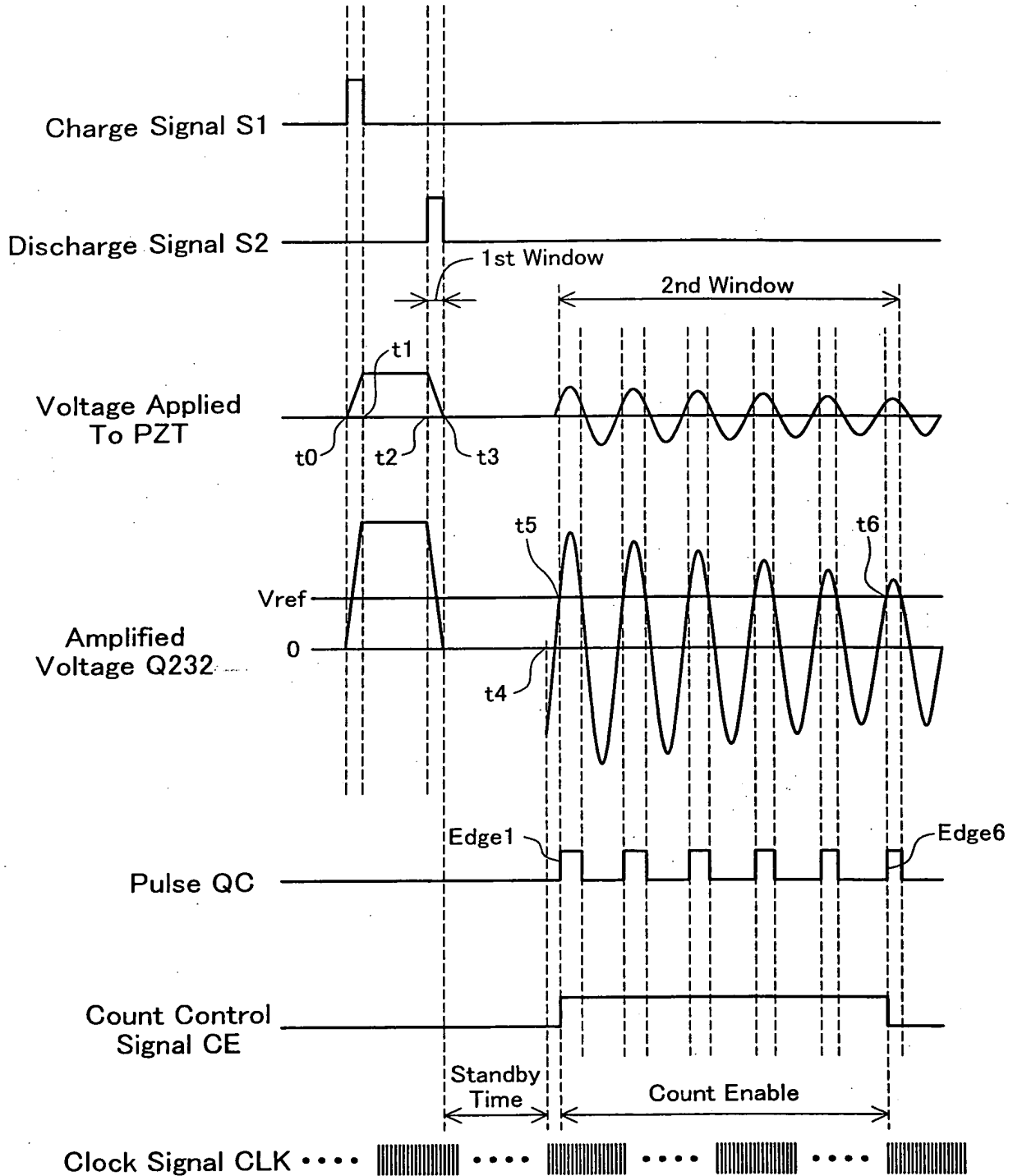
Fig.6

First Embodiment



7/17

Fig.7



8/17

Fig.8

Sensor Ranks and Settings of Reference Voltage

Sensor Rank	Reference Voltage
A	4.2
B	4.1
C	3.9
D	3.7
E	3.5
F	3.4
G	3.3
H	3.2

Unit: V

9/17

Fig.9(a)

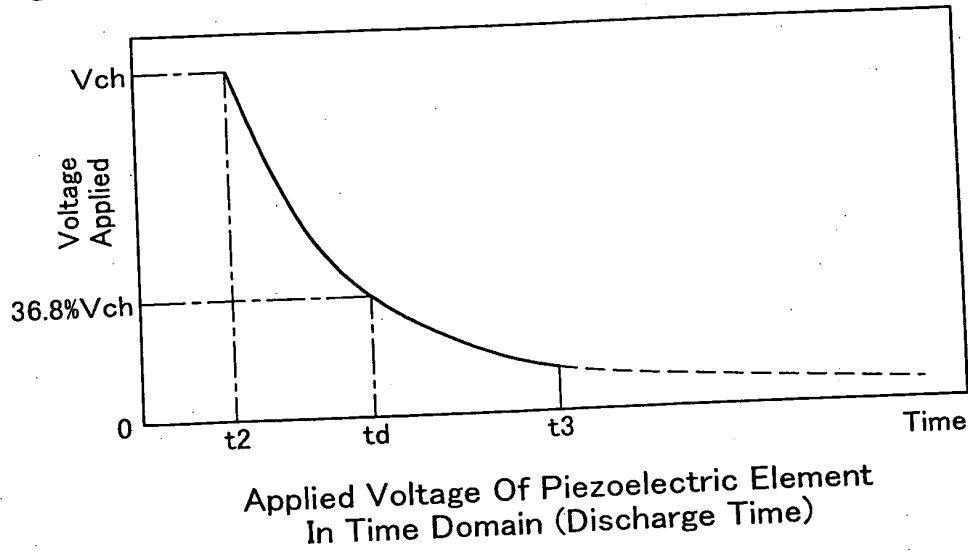
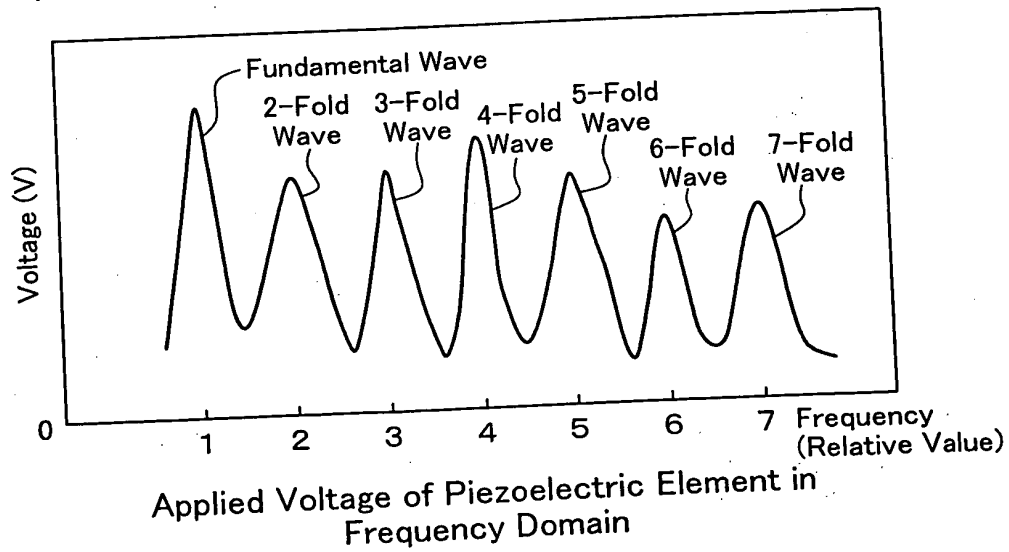
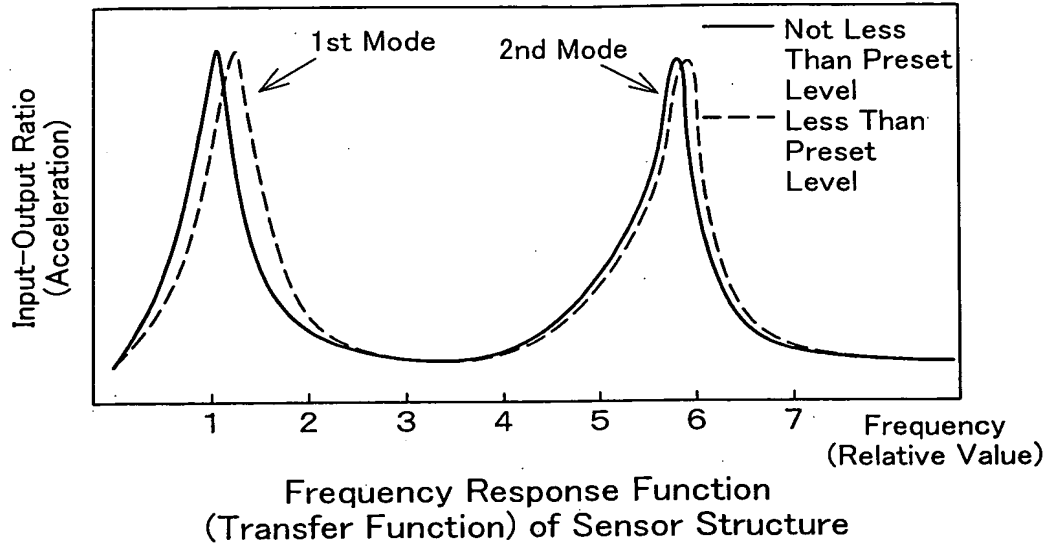


Fig.9(b)



10/17

Fig.10



11/17

Fig.11(a)

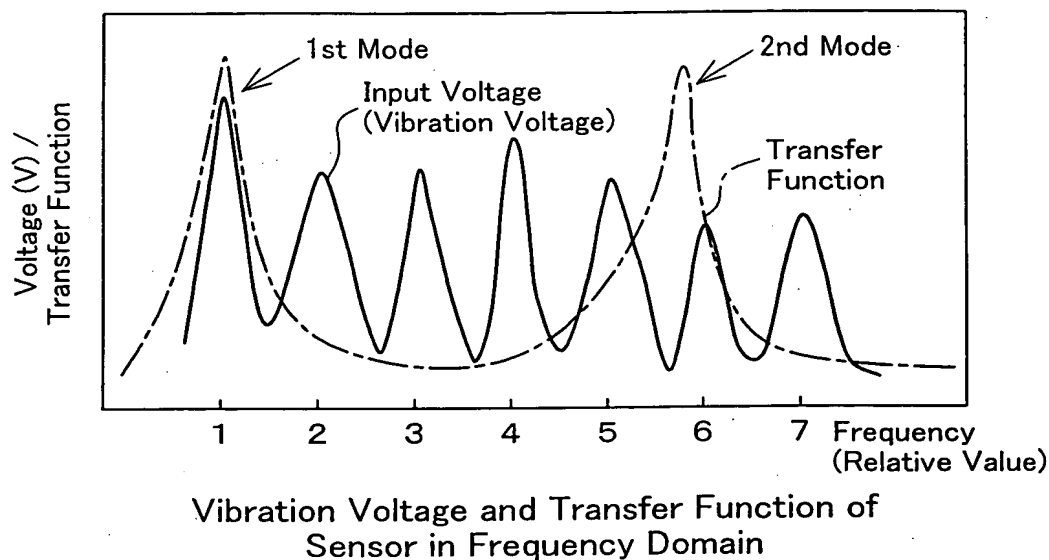
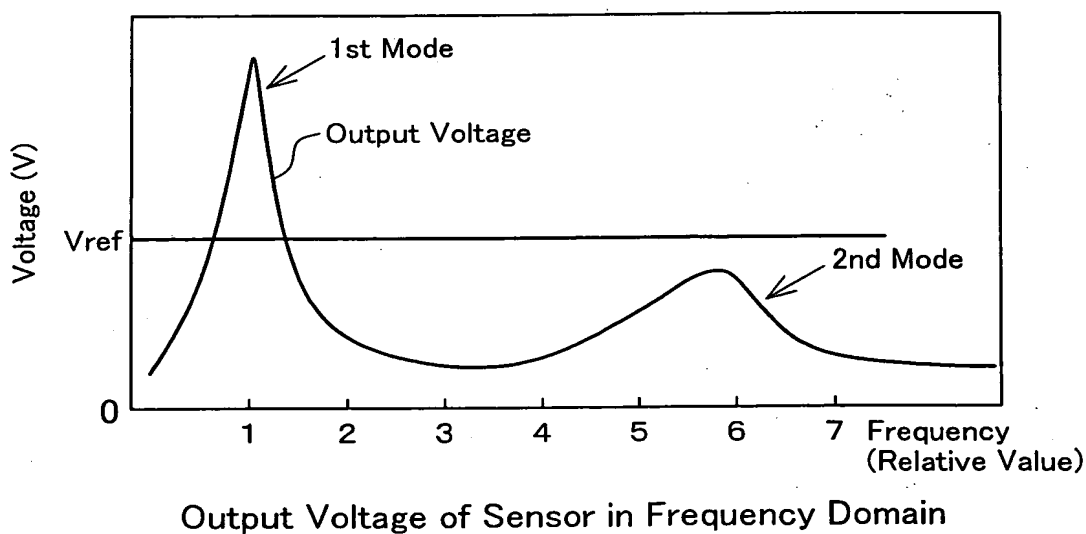
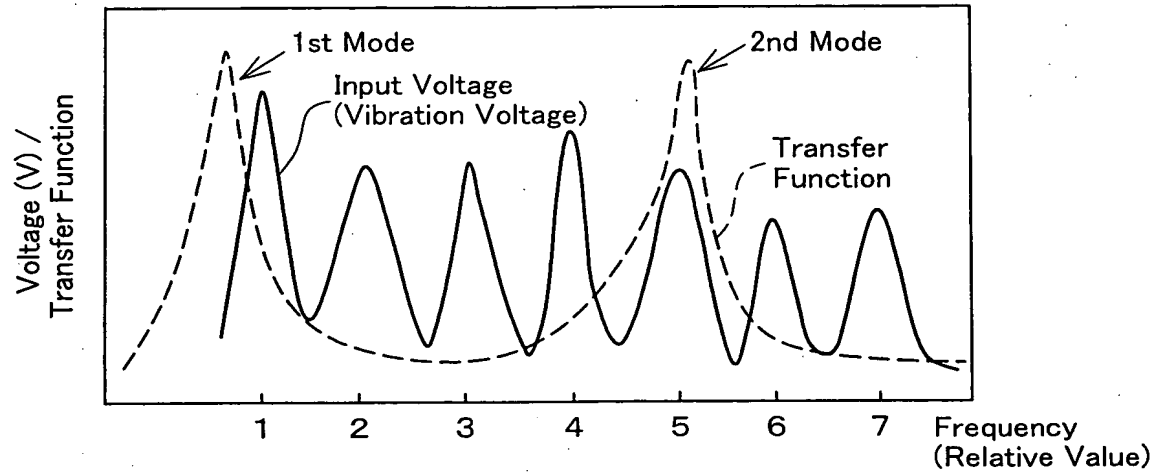


Fig.11(b)



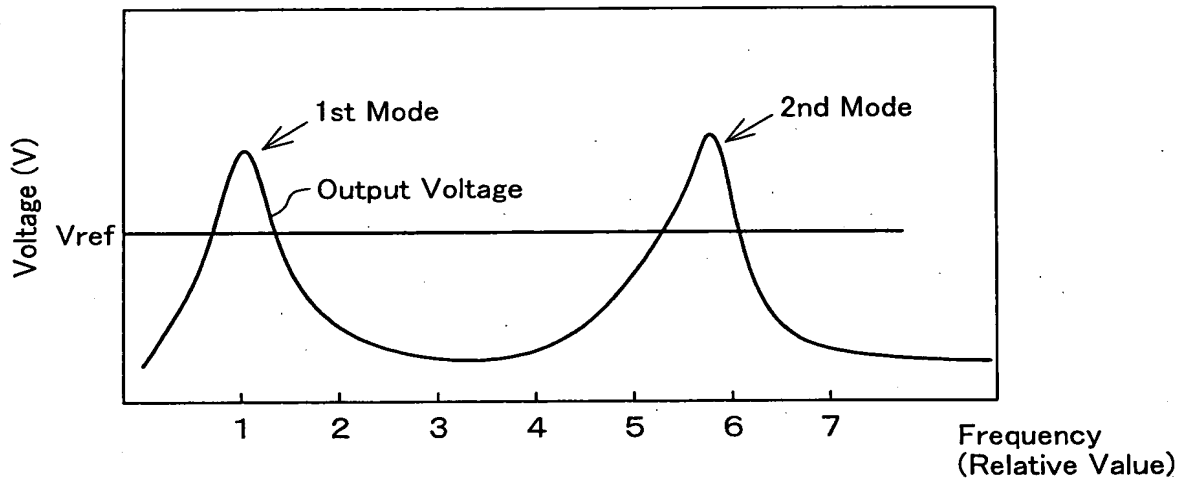
12/17

Fig.12(a)



Vibration Voltage And Transfer Function of
Sensor in Frequency Domain
(Before Regulation)

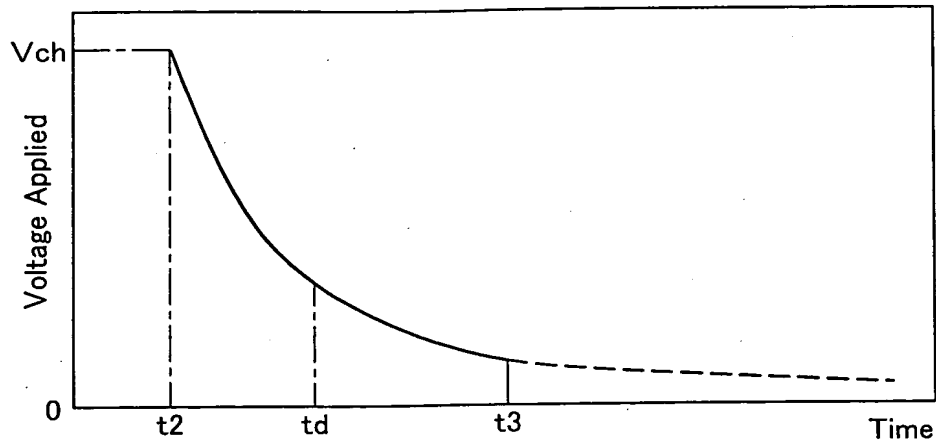
Fig.12(b)



Output Voltage of Sensor in Frequency Domain

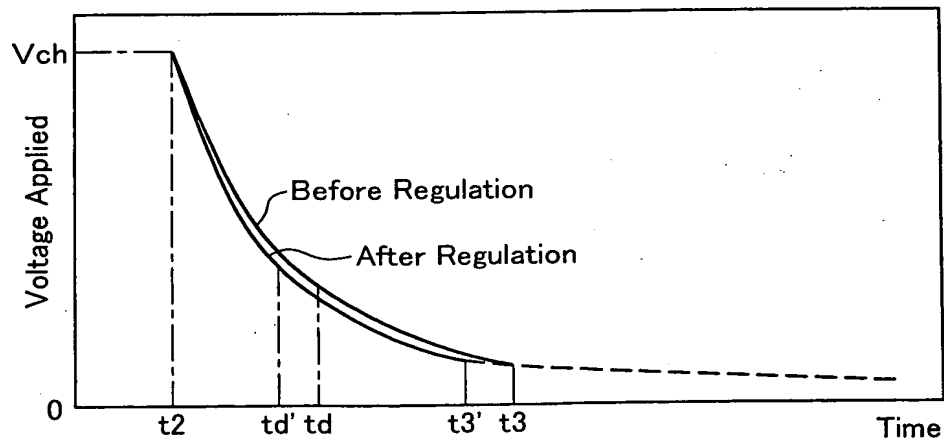
13/17

Fig.13(a)



Applied Voltage of Piezoelectric Element in Time Domain
(Discharge Time)

Fig.13(b)

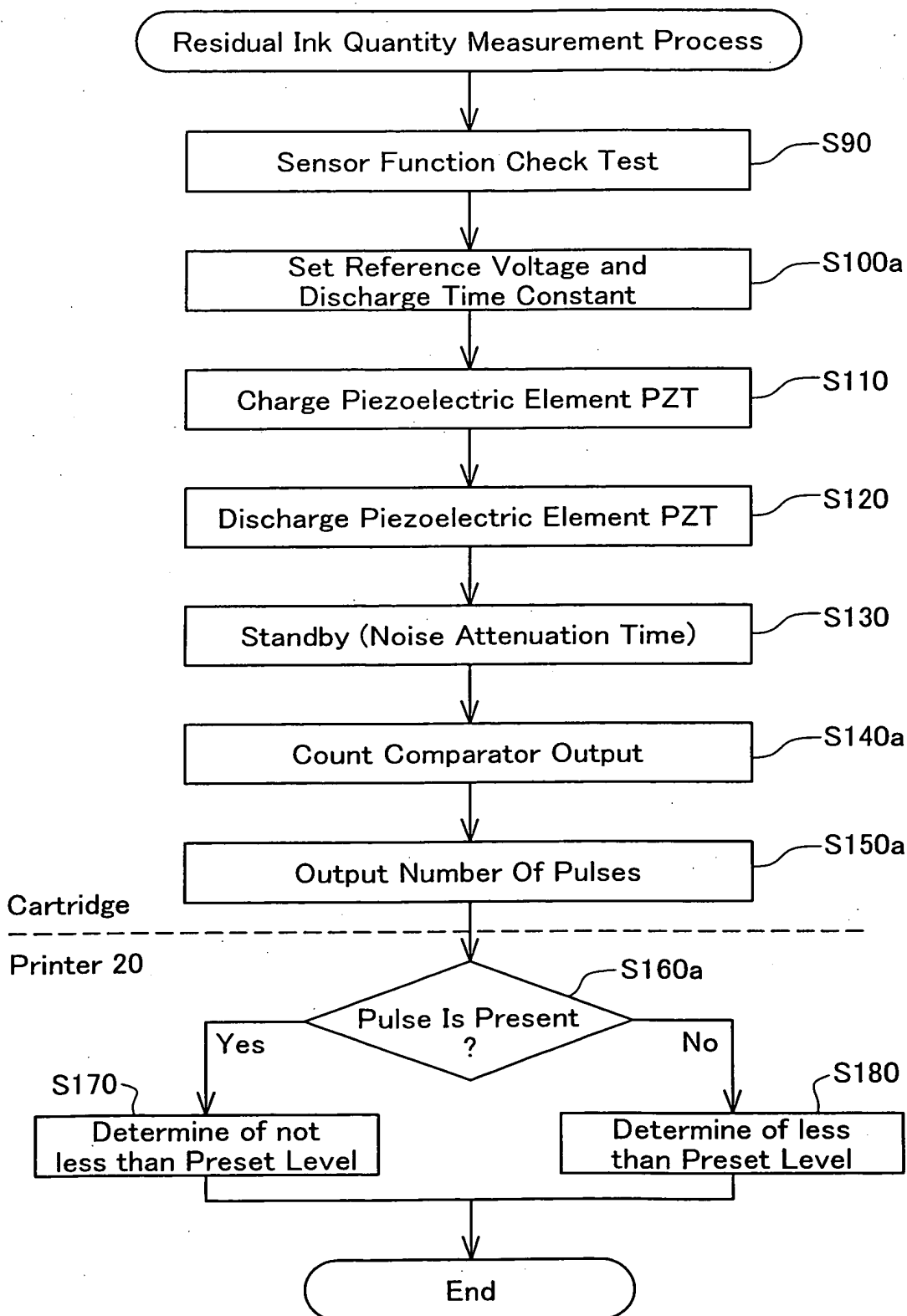


Applied Voltage of Piezoelectric Element in Time Domain
(Discharge Time)

14/17

Fig.14

Second Embodiment



15/17

Fig.15

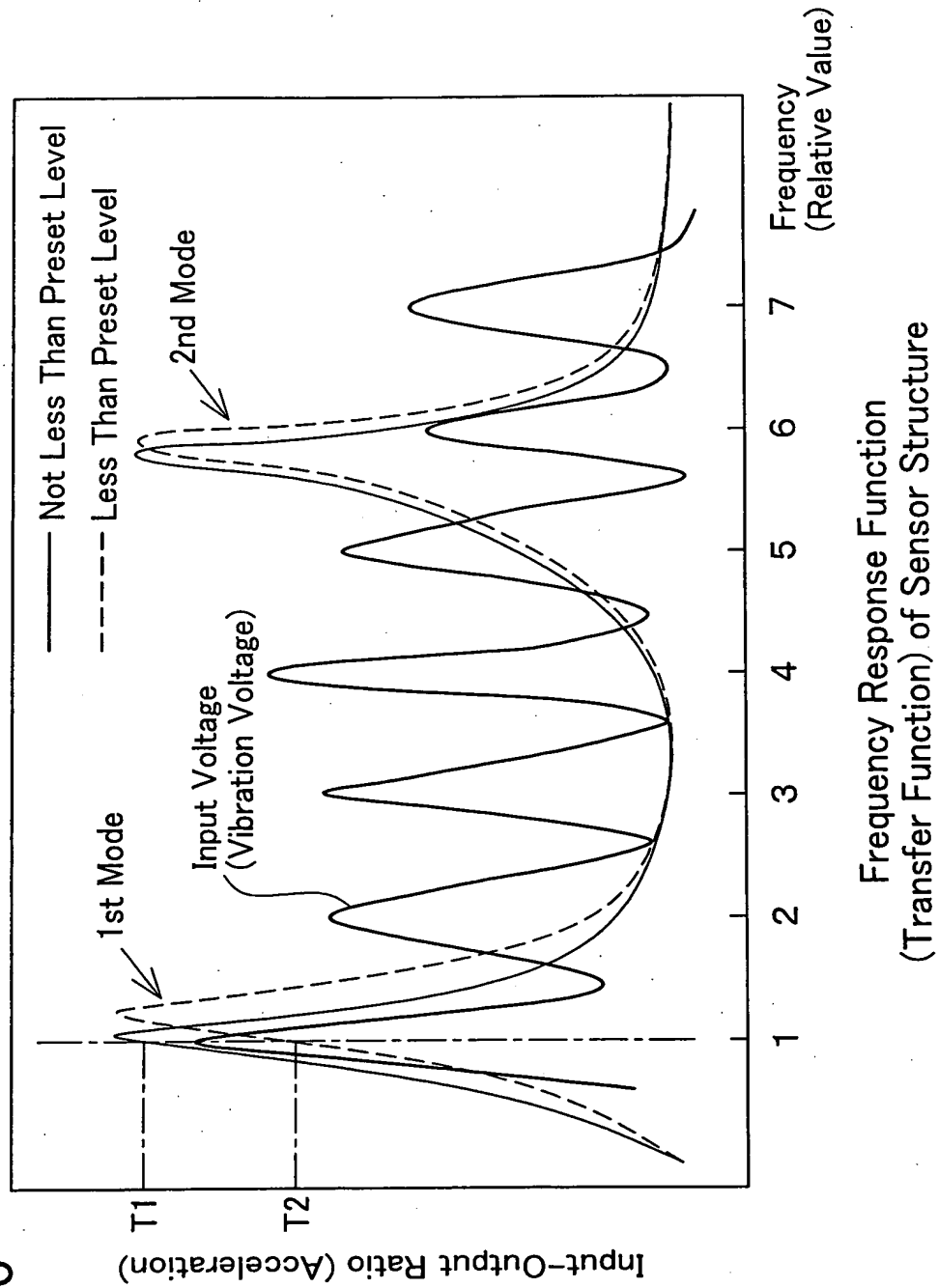
Sensor Ranks And Settings Of Reference Voltage

Sensor Rank	Reference Voltage For Function Check	Reference Voltage For Residual Quantity Detection
A	2.9	4.2
B	2.9	4.1
C	2.8	3.9
D	2.8	3.7
E	2.8	3.5
F	2.7	3.4
G	2.7	3.3
H	2.7	3.2

Unit: V

16/17

Fig. 16



17/17

Fig. 17

